

Taxonomic Study on Oribatid Mites from Crop Lands of Japan (I)

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藤田 正雄¹⁾: 農耕地にみられるササラダニ類の分類学的研究 (I)

Abstract: A new species of oribatid mite genus *Multioppia*, *M. shinanoensis*, is described from an upland field in Nagano City, central Japan. The new species differs from the other Japanese species of *Multioppia* in having the pectinate sensillus.

The two species and one subspecies, belonging to the genus *Multioppia* HAMMER, 1961 (family Oppidae), mentioned below have hitherto been known from Japan:

Multioppia brevipectinata SUZUKI, 1975

M. brevipectinata lenis FUJITA et FUJIKAWA, 1986

M. berndhauseri MAHUNKA, 1978 (AOKI, 1987)

In addition to them, one more species is described here from an upland field in Nagano City of Nagano Prefecture, central Japan.

The type-series of the new species described here will be deposited in the collection of the National Science Museum, Tokyo.

Multioppia shinanoensis sp. nov.

(Figs. 1-5)

Multioppia sp. A: FUJITA, 1989.

Measurement: Length: 239 μm ; width: 119 μm .

Body colour: Lightbrown.

Prodorsum: Rostral seta has a distinct elbow on its middle portion and distinctly barbed on the outside. Lamellar seta barbed on the outside. Interlamellar seta barbed. Sensillus (Fig. 2) pectinate, apical portion provided with 8-10 long seta-like projections unilaterally and short spines on both sides; pedicel provided with several minute spines. Exobothridial seta *ex* barbed on the outside. A transverse line found anterior to lamellar setae. Several light spots found in posteromedial and posterolateral parts of prodorsum. Pedotectal region covered with granules.

Notogaster: Twelve pairs of notogastral setae are present; each seta barbed unilaterally (Fig. 3). Surface of notogaster punctuate. Lyrifissure *im* aligned trans-

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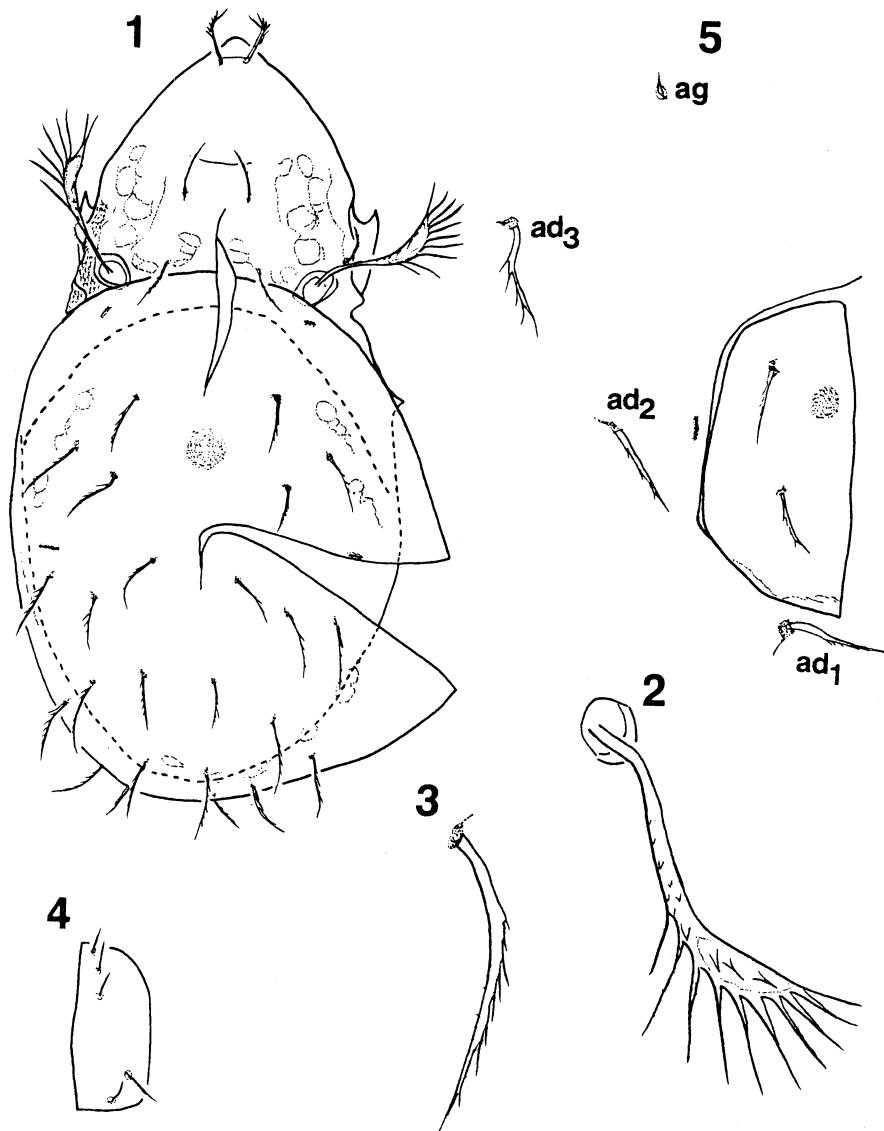


Fig. 1-5 *Multioppia shinanoensis* sp. nov. 1: Dorsal aspect, 2: Sensillus, 3: Dorsal seta (h_2), 4: Genital plate, 5: Anal plate, aggenital seta and adanal setae.

versely and located anterior to seta r_3 (Fig. 1).

Ventral side: Two pairs of anal and 3 pairs of adanal setae are present; each seta barbed unilaterally; adanal setae ad_1 inserted just behind the anal plates; ad_2 inserted lateral to iad ; ad_3 inserted at a level anterior to the front margin of anal plate (Fig. 5). One pair of aggenital and 5 pairs of genital setae all smooth; setae g_3 , g_4 and g_5 remote from g_1 and g_2 (Fig. 4). Adanal fissure iad aligned parallel to the lateral margin of

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anal plate. The formula of epimeral setae: (3-1-3-3); setae $3c$ and $4c$ barbed. Epimerata III and IV fused perfectly to each other.

Legs: All legs monodactyle. Leg chaetotaxy (excluding solenidia): I (1-5-2-4-19); II (1-5-2-4-14); III (2-3-1-3-12); IV (1-2-2-3-10), and solediotaxy: I (1-2-2); II (1-1-2); III (1-1-0); IV (0-1-0). On tarsus I, solenidion ω_1 baciliform and located just anterior to famulus ϵ , while solenidion ω_2 piliform and located far from ω_1 .

Material examined: Holotype (NSMT-Ac-10272) collected from soil of conventional farm in Nagano City, Nagano Prefecture, 16-V-1986, M. FUJITA leg.; 1 paratype (NSMT-Ac-10273) from the same place, 27-VI-1986, M. FUJITA leg.

Remarks: *Multioppia spinifera* MAHUNKA, 1982 is related to the new species, *M. shinanoensis*. However, the former differs from the latter in the smooth adanal and anal setae and the large body size (length: 275-295 μm ; width: 147-156 μm). *M. laniseta* MORITZ, 1966 is also resembling the new species, but is distinguishable from the latter by the presence of line located posterior to rostral setae and the large body size (length: 324 μm ; width: 159 μm). The new species differs from the other Japanese species of *Multioppia* in the shape of sensilli with long pectinations. The specific name "shinanoensis" came from Shinano, the ancient name of Nagano Prefecture, the type locality.

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摘要

長野市にある畑地から採集されたタモウツブダニ属の一新種を記載し、シナノタモウツブダニ *Multioppia shinanoensis* sp. nov. と命名した。このダニは、体長 239 μm 、体幅 119 μm で他の同属のダニに比べ小形である。日本産の他の同属のダニとは、胴感毛の形態の違いにより容易に区別できる。

References

AOKI, J., 1987. Oribatid mites (Acari: Oribatida) from the Tokara Islands, southern Japan-I. *Bull. Biogeogr. Soc. Japan*, 42: 23-27.

FUJITA, M., 1989. A comparison of abundance of Acari, Collembola and Enchytraeidae in soil of crop fields under different soil managements. *Edaphologia*, No. 40: 1-12. (In Japanese with English synopsis).

FUJITA, M. & FUJIKAWA, T., 1986. List and description of oribatid mites in the forest litter as materials introducing soil animals into crop field of Nayoro (1). *Edaphologia* No. 35: 5-18.

MAHUNKA, S., 1978. Neue und interessante Milben aus dem Genfer Museum XXVII. A first survey of the oribatid (Acari) fauna of Mauritius, Reunion and the Seychelles I. *Revue*

Masao FUJITA

suisse Zool. 85: 177-236.

—, 1982. Neue und interessante Milben aus dem Genfer Museum XLVI. Oribatiden der pazifischen Region (Acari: Oribatida). *Revue suisse Zool.* 89: 379-394.

MORITZ, M., 1966. Neue Oribatiden (Acari) aus Deutschland, II *Multioppla laniseta* n. sp. *Zool. Anz.* 176: 127-132.

SUZUKI, K., 1975. Some new species of oribatid mites from the Izu Peninsula. V. *Multioppla brevipectinata* sp. n. *Bull. Biogeogr. Soc. Japan*, 31: 7-20.